

Amended claims:

Sub A1
a2

1. An improved preservation solution for organs and tissues or parts thereof from humans and animals, comprising:

calcium ion,

at least one colloidosmotically active substance, and

nitroglycerin.

Sub C2

5. An improved preservation solution for organs and tissues or parts thereof from humans and animals, comprising:

calcium ion,

optionally nitroglycerin,

about 1-15% by weight low-molecular dextran having an average molecular weight of about 1,000 daltons,

about 3-8% by weight high-molecular dextran having an average molecular weight of 40,000 - 120,000 daltons as a colloidosmotically active substance,

about 0.1 - 2.6% glucose as a substrate,

buffer,

about 4-25 mM potassium ions,

about 1-16 mM magnesium ions,

about 50-150 mM sodium ions, and about 50-150 mM

chloride ions,

wherein the amounts are based on the final volume of the improved preservation

a 7/8 C 2
cont

solution.

21. A method of preserving contractile function in contractile tissue, comprising
storing the contractile tissue in the preservation solution according to claim 1, wherein:

a 4

~~nitroglycerin is present in an amount of about 10^4 - 10^7 M; and~~

~~calcium ion is present in an amount of about 0.3 - 1.5 mM calcium, based
on the final volume of preservation solution.~~

23. A method for maintaining the integrity of vascular endothelium, comprising
storing the contractile tissue in the preservation solution according to claim 1, wherein:

a 5

~~nitroglycerin is present in an amount of about 10^4 - 10^7 M; and~~

~~calcium ion is present in an amount of about 0.3 - 1.5 mM calcium, based
on the final volume of preservation solution.~~

Please add new claims 24-32, as follows:

--24. A method for preserving organs and tissues or parts thereof from humans and
animals, comprising:

~~flushing an organ or a tissue with, and immersing in, the improved
preservation solution according to claim 5, and~~

~~storing said solution containing said organ or tissue at a temperature of
0.5-12°C, preferably 2-8°C, for at most 36 hours for long-term preservation, or at
a temperature of about 4-24°C for at most 2 hours for short-term preservation.~~

Sub C3
25. The method of preserving organs and tissues or parts thereof from humans or animals according to claim 24, wherein said tissue comprises blood vessels or parts thereof.

26. The method of preserving organs and tissues or parts thereof from humans or animals according to claim 24, wherein said tissue is vena sapena magna or parts thereof.

27. The method of preserving organs and tissues or parts thereof from humans or animals according to claim 24, wherein said organs and tissues comprise lungs.

28. A method of preserving endothelium-dependent relaxation factor function in organs, tissues and parts thereof, comprising storing said organs, tissues and parts thereof in the improved preservation solution according to claim 5.

*a^b
Cont.*
29. A method of preserving contractile function in contractile tissue, comprising storing the contractile tissue in the improved preservation solution according to claim 5.

30. A method of preserving contractile function in contractile tissue, comprising storing the contractile tissue in the preservation solution according to claim 5, wherein:

nitroglycerin is present in an amount of about 10^{-4} - 10^{-7} M; and

calcium ion is present in an amount of about 0.3 - 1.5 mM calcium, based on the final volume of preservation solution.

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31. A method for maintaining the integrity of vascular endothelium, comprising:
exposing said organs, tissues and parts thereof to the preservation solution according to claim 5.

32. A method for maintaining the integrity of vascular endothelium, comprising:
storing the contractile tissue in the preservation solution according to claim 5, wherein:
nitroglycerin is present in an amount of about 10^4 - 10^7 M; and
calcium ion is present in an amount of about 0.3 - 1.5 mM calcium, based
on the final volume of preservation solution.